

Arc

Cat.No. 156 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 AP staining IP: not recommended ICC: not tested yet IHC: 1 : 500 IHC-P/FFPE: 1 : 500 up to 1 : 1000
Immunogen	Recombinant protein corresponding to AA 1 to 396 from mouse Arc (UniProt Id: Q9WV31)
Reactivity	Reacts with: rat (Q63053), mouse (Q9WV31). Other species not tested yet.
Specificity	Specific for arc. (K.O. verified)
matching control	156-0P
Remarks	This antibody is an alternative for the discontinued purified antibody cat. no. 156 005.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Immediate-early genes (IEGs) are rapidly induced after patterned synaptic activity. Genes that are involved in this complex response code for transcription and growth factors, metabolic and signaling enzymes, small GTP binding proteins and structural proteins. Some of these proteins may play a crucial role in long term plasticity which is important for learning processes. The activity regulated cytoskeleton associated protein **Arc** or **Arg 3.1** is enriched in dendrites and colocalizes with F-Actin. Direct interaction of Arc with actin has also been demonstrated by biochemical studies.

Selected References SYSY Antibodies

Sleep loss disrupts Arc expression in dentate gyrus neurons.
Delorme JE, Kodoth V, Aton SJ
Neurobiology of learning and memory (2018) : . **IHC; tested species: mouse**

Selected General References

Regulation of activity-regulated cytoskeleton protein (Arc) mRNA after acute and chronic electroconvulsive stimulation in the rat.

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Memory-influencing intra-basolateral amygdala drug infusions modulate expression of Arc protein in the hippocampus.
McIntyre CK, Miyashita T, Setlow B, Marjon KD, Steward O, Guzowski JF, McGaugh JL
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Sparse, environmentally selective expression of Arc RNA in the upper blade of the rodent fascia dentata by brief spatial experience.

Chawla MK, Guzowski JF, Ramirez-Amaya V, Lipa P, Hoffman KL, Marriott LK, Worley PF, McNaughton BL, Barnes CA
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Experience-dependent coincident expression of the effector immediate-early genes arc and Homer 1a in hippocampal and neocortical neuronal networks.

Vazdarjanova A, McNaughton BL, Barnes CA, Worley PF, Guzowski JF
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Nature neuroscience (1999) 2(12): 1120-4.

Synaptic activation causes the mRNA for the IEG Arc to localize selectively near activated postsynaptic sites on dendrites.

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Neuron (1998) 21(4): 741-51.

Arc, a growth factor and activity-regulated gene, encodes a novel cytoskeleton-associated protein that is enriched in neuronal dendrites.

Lyford GL, Yamagata K, Kaufmann WE, Barnes CA, Sanders LK, Copeland NG, Gilbert DJ, Jenkins NA, Lanahan AA, Worley PF
Neuron (1995) 14(2): 433-45.